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ABSTRACT

The medium of instruction in schools in most African countries is a second language (L2); less attention is focused on the first language (L1) at each successive level of formal schooling. Little attention, however, has been given in curriculum development and in research to the building up of the bilingual reading skills of children whose experience in the L2 is almost exclusively confined to its school use and whose L1 is relatively unavailable to them in its written form. A current theory of second language learning advances the thesis that reading and writing skills in L2 are dependent upon the attainment of oral proficiency in that language. The implication of this thesis is that superior reading and writing performance will be demonstrated in the language medium in which the child has gained the greater oral proficiency. This study examined this implication through an investigation of bilingual reading skills in Ghanaian primary schools. The results show that the nature of the child's bilingual experience, especially in the classroom, may be a far more important determinant of reading ability than the degree of oral proficiency attained, since the children in this study obtained similar mean reading scores in the two languages. (Author/CFM)

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BILINGUAL READING SKILLS OF PRIMARY SCHOOLCHILDREN IN GHANA

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ABSTRACT

The medium of instruction in schools in most African countries is a second language (L2), less attention being focussed on the mother tongue or first language (L1), at each successive level of formal schooling. Little attention, however, has been given in curriculum development and in research to the building up of the bilingual reading skills of children whose experience in the second language is almost exclusively confined to its school use and whose first language is relatively unavilable to them in its written form. A current theory of second language learning advances the thesis that reading and writing skills in a L2 are dependent upon the attainment of oral proficiency in that L2. The implication of this thesis is that superior reading and writing performance will be demonstrated in the language medium in which the child has gained the greater oral proficiency. The study reported below examined this implication through an investigation of bilingual reading skills in Ghanaian primary schools. The results show that the nature of the child's bilingual experience, especially in the classroom, may be a far more important determinant of reading ability than the degree of oral proficiency attained, since the children in this study obtained similar mean reading scores in the two languages.

BILINGUAL READING SKILLS OF PRIMARY SCHOOLCHILDREN IN GHANA

Keith A. Bezanson

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INTRODUCTION: Reading in two languages

This study attempts to draw together two areas of research and practical endeavour in education: the relation between speech and reading skills in the learning of second languages, and educational language policy in multilingual societies, especially for the Primary school. In Ghana and some other "Anglophone" African countries, almost all reading matter, public and private, is in English. English is taught daily from the first term of the 6-year Primary school. Yet after 6 years of lessons in speaking and reading, the children are still naturally less fluent in it than in their own Ghanaian languages (GLs).

This paper considers 2 alternative views of the relation between GL and English in the bilingual teaching of reading in Primary schools. The first is that reading ability must inevitably be established in the mother-tongue, the natural medium of understanding and self-expression in speech; the second that, though school-children are taught reading in both, the prominence of English as a written language in the environment at large induces a relative weakness in their mother-tongue reading from the beginning. No previous research has thrown light on this important aspect of education, nor is there a terminal examination whose results could be studied for this purpose.

The former expectation would receive support from the theory of second-language (L2) learning, dominant until recently, which postulates that reading skills in a L2 are principally determined by the level of the learner's spoken ability (1). If reading is defined as a process of recognising the written

form of what is already known in speech, as for a child learning to read his first language (L1), then a degree of oral proficiency would be a necessary, if not a sufficient, condition for an equivalent degree of reading proficiency. Research has found bilinguals performing less well in reading their L2 than native speakers of that language (2). One might indeed reasonably expect the best speakers of an L2 to be the best readers also. From this it would be but a small step to the hypothesis that, in a given bilingual and bi-literate population, the stronger spoken language would be the stronger reading language. Children reading in their mother-tongue should naturally be able to extract meaning more accurately and quickly than when reading even simple texts in an orally less familiar medium. On this assumption, the minority of Ghanaian children proceeding to Secondary school would build their ultimately English-dominated reading ability on a foundation of skills developed initially in the mother-tongue.

Yet where, as in Ghana, there is heavy reliance on the printed English word, the second of the above views is generally correct for those having at least secondary level education. Even the secondary student has few opportunities to read in his own language, which is studied, if at all, only as one subject among others on the timetable. What is not clear is whether the dominance of English as a reading language manifests itself at the earliest level of schooling. If so, then Primary school children would tend to develop even elementary reading skills more strongly in English than in the GL, regardless of their limited oral English. Such a discrepancy between mother-tongue and accepted reading medium would not be without precedent. French, not local languages, has been the sole vehicle of literacy in most "Francophone" West African countries, and Ferguson has described a complex situation of a partly similar kind for Ethiopia (3).

The issue is more than academic. It is often observed that children should not be expected to become literate and bilingual at the same time. Poor reading attainment may contribute to the Primary school drop-out rate, which in Ghana ran at 41 per cent over 6 years to 1967. And it may well be that the majority who do not go on to secondary-level education could valuably do more to develop reading skills in their own language. In the absence of evidence about the consequences of the present situation, however, it is not possible to know how the bilingual balance in education might be improved. Current concern to strengthen the use and study of African languages adds further to the need for information.

Such research as has been done in West Africa has been with older students, who have largely lost touch with the written form of L1. Brimer (4) tested Nigerian undergraduate students in L1 and in English reading, finding that reading rates were lower in L1 than in English. In the same University McKillop and Yoloye (5) found a deficit in students' English reading skill compared to American counterparts, independent of level of English vocabulary. In Ghana standards of English reading at the end of the 3rd Primary school year have been found to be much lower than official expectations (6). But we knew of no published empirical research on reading in West Africa that studied younger children on a bilingual basis.

We therefore proposed a comparative study of Primary pupils' reading ability in English and in a GL, taking "reading ability" to comprise two main skills: comprehension in silent reading and the speed at which this can be done (7).

BACKGROUND: language in Ghanaian education

In Ghana, English is the official national language, the medium of all post-primary education, and a frequent lingua franca between schooled individuals (8). In the primary schools, the variety of mother tongues spoken by children sometimes creates an educational problem (9). Universal primary education was declared a goal in 1961, and has been all but achieved in some urban areas. Policy on the medium of instruction has varied. The colonial period policy (10) of using the major GLs as media of instruction in the early school years was reversed in 1959, two years after independence, when it was directed that English should be the medium of instruction from the first or second year of schooling (11). The government of the day was anxious to lay a foundation for educational achievement comparable to that which obtained in other countries, and to give equal educational opportunity to all children, including the majority whose unschooled parents and relatives could not provide the advantage of a home in which English might be spoken. In 1971, policy was again changed, the emphasis returning to the GLs in the Primary school, English still being taught as a subject from the beginning.

National policy on language in the primary schools has not been reflected uniformly in classroom practice across the country. The 1959 policy on the use of English as the medium was followed by an ambitious programme of school expansion (12) and resources did not allow for the special training of teachers to teach in English, or for the production of new materials. In practice, at least the first 5 years of schooling in most primary schools in southern Ghana have continued to rely on the

local language as the effective means of classroom communication, with an unplanned and varying admixture of English (13). The child's acquisition of reading skills may therefore be hampered by inconsistencies between policy and practice concerning the medium of instruction. From 1959 to 1971 little school reading material was printed in the GLs, all other subject textbooks appearing in English only.

Teaching methods are often of the traditional, whole-class, teacher-dominated type, though modern ideas are spreading. The early stages of reading have tended to include "alphabetics" and much "look-and-say" work, with words or sentences mechanically repeated. In the upper primary school, reading aloud around the class, followed by detailed questioning, is a common technique. Partly owing to the limited supply of books in schools, teachers often encourage a slow reading rate and word-by-word treatment, as is believed conducive to better understanding of what is being read.

AIMS AND HYPOTHESES

Our major aim was to investigate relative achievement in silent reading comprehension and speed, by children reading in a Ghanaian mother-tongue and in English. The subjects were to be pupils in the 6th and final year of Primary school. The hypothesis of greatest interest to us was that the children would offer a superior reading performance in both repects in the GL, qua the language of greater oral proficiency. We also wished to scrutinise the notion of the slow, accurate reader, accepting as our working hypothesis the belief in an inverse relation between speed of

reading and degree of comprehension.

We further incorporated a study of four factors often found to be relevant in predicting reading development: sex, father's educational level, nursery schooling and school quality.

(a) Sex: Research in Western countries has consistently demonstrated a positive relationship between sex and language development. Oetzel (14), in a review of 26 studies of sex differences, found that 23 of them reported girls significantly better than boys in this area. The much smaller amount of evidence from the African setting suggests that cultural factors may reverse the situation. Boys, of whom more is expected in achievement outside the home, are ahead even at the elementary school level. In central Africa, a deficit in English for girls was reported (15), and an earlier survey of English in Ghanaian schools revealed that girls tended to perform less well than boys at the elementary school level (16). This evidence is unreliable, as girls' schooling was generally backward in the colonial period, but our working hypothesis was that girls' scores would be significantly lower than boys' (17).

(b) Father's Education: It is difficult to obtain recognized indices of socio-economic status in Ghana, and income data are scanty (18). We took fathers' educational level as a crude index of socio-economic status, and hypothesized that it would correlate positively with the children's reading ability in both languages.

(c) Nursery Schooling: Some children attend pre-primary schools where some introductory reading is taught. We worked on the hypothesis that such

early experience of schooling would contribute towards the development of reading skills in both languages.

(d) School Quality: An independent definition of Primary school quality is difficult to arrive at in the absence of a terminal national examination. Such a factor is likely to be largely an aggregate of particular physical and neighbourhood features, and of individual and group characteristics in the school population (19). Given these difficulties, we did not, therefore, attempt an independent rank ordering of the schools in terms of general quality, but hypothesized that the rank orderings of schools by reading scores in both languages would be positively correlated with each other.

THE SAMPLE

The study was conducted in the town of Cape Coast, on the coast of the Central Region of Ghana. The local language and the name of the predominant ethnic group is Fante (20). From the 46 primary schools in the Cape Coast Municipal Council area 11 schools were randomly selected (21). Six of the 11 were single-sex (4 boys' and 2 girls') and the others were coeducational.

In every school, all children in the P6 class were tested. The L1, Fante, is the main language of communication for these children, but they had been taught reading in both L1 and L2 for at least five years. Altogether 198 boys and 126 girls were tested, these figures being in the same ratio as boys to girls in the total P6 population in Cape Coast (61:39).

TEST MATERIAL

We sought as our test material a passage already used and found suitable for P6 children in Ghana. It proved easier to find one in English than in a GL, and then, with extreme care, to obtain a Fante version of it. An experienced teacher, and researcher (22) provided us with such a passage, a straightforward factual narrative in a local and very familiar setting, about some children visiting a local festival. It presented no conceptual difficulties and was closely similar in type to stories which the children had in both their Fante and their English school reading books. It was such that it was not necessary to reach the end of the passage in order to understand what had been narrated earlier. Seventeen 4-choice objective were constructed, also of a straightforward factual type, not requiring questions inferences or extraneous knowledge.

In view of the well-known dangers of using translations in bilingual research, we took strict precautions against loss of equivalence. Two independent translators, one a teacher, and one an ex-teacher, were employed as translators, producing a Fante version within the range of young children's speech. This was carefully checked with teachers at local schools not involved in the study. "Blind" translations back to English were then carried out, with some resulting modifications. As we were confident of the naturalness and appropriateness of the result, we were not disturbed by the ultimate difference in the lengths of the 2 passages (English: 493 words, Fante: 422).

The authors were reassured by the work reported by Gray (23) that the nature of the reading task should not be affected by the differences between

English and Fante script. The Fante language is written in a left-to-right alphabetic script, employing 15 consonant symbols of the Roman alphabet, and 5 Roman and 2 non-Roman (ɛ and ɔ) vowel symbols. It is widely held among teachers that, whereas English is "irregularly spelt", the symbols in the orthography of Fante (like other Ghanaian languages) correspond exactly to its distinctive sounds. Such a direct antithesis is misleading. In fact, Fante script is broadly in more regular correspondence to the phonemic structure of the language than is the case for English, but it neglects certain distinctive features such as those of tone and vowel nasalization, which could not readily be indicated in Roman script without the help of diacritical marks. There are no serious deficiencies in the representation of the consonant phonemes (a number of digraphs are used), but the 7 vowel symbols have to cater for 14 vowel phonemes (24).

PROCEDURE

Previous work in West Africa, and our own experience, had suggested that test subjects should be made familiar with the type of material and response required if results were to be valid and reliable (25). Hence a randomly chosen P6 class of 34 children was used for checking on the appropriateness of the passage and questions, and for deciding on the time limit and the standard instructions. These included practice comprehension items of the type employed in the criterion test. As the same test material was to be used in obtaining measures of both comprehension and reading rate, a fixed time limit was applied, after which pupils marked with a cross the point they had reached. This procedure enabled all testees then to turn directly and simultaneously to the questions.

Item analysis of the trial class's responses, showed that all items had a positive discrimination index. The mean comprehension score was 47 percent.

The authors jointly conducted the 11 testing sessions over a week in April, 1971. The few non-Fante-speaking pupils, recent migrants to the Central Region, were issued with the English version of the test, but their papers were not analysed. There were also 24 non-Fante children brought up in the Cape Coast area who said they could speak and read the language. These were included in the study (26), and the whole sample was defined as Fante-speaking P6 children using Fante as their Ghanaian reading language.

Each class was randomly divided into two, and an English or a Fante version of the test given to each pupil. Two standard practice sessions were provided, with individual checks to ensure that all had understood the task. The pupils were then told to read the passage until stopped after 6 minutes, when they marked the last word read and proceeded to the questions. To prevent reading on beyond what had been covered in the 6 minutes, reference back to the passage was not permitted. No time limit was set for answering the questions, but a subsequent check showed that every child had answered the questions applying to the portion of the passage he had been able to read in the time permitted. Only on those questions were comprehension scores calculated; thus the degree of comprehension was measured independently of reading rate.

As a separate exercise, the children and the school authorities supplied information on fathers' education, nursery school attendance,

and the supply of reading materials in the school.

RESULTS

a) Reading rate

The small number of children (6 for English and 4 for Fante), who reported completion of the passage within the 6 minutes did not significantly affect the calculation of reading rates.

Table 1 summarizes the evidence on reading rate, in terms of words per minute, and on reading comprehension, in terms of correct responses to questions relating to the amount of material read.

TABLE 1

READING RATE AND COMPREHENSION SCORES

	RATE		COMPREHENSION	
	Mean Words Per Minute	Standard Deviation	Mean Percentage	Standard Deviation
ENGLISH N = 155	57.2	18.1	34.8	19.6
FANTE N = 169	44.1	15.5	35.8	20.3

The table shows what we would regard as low reading rates in both languages: 57.2 words per minute for English and 44.1 words per minute for Fante. These are considerably below rates ordinarily assumed for reading

aloud (c. 90 words per minute). Standard deviations for both reading rate scores were large, indicating a wide range of reading rates among the pupils in both languages.

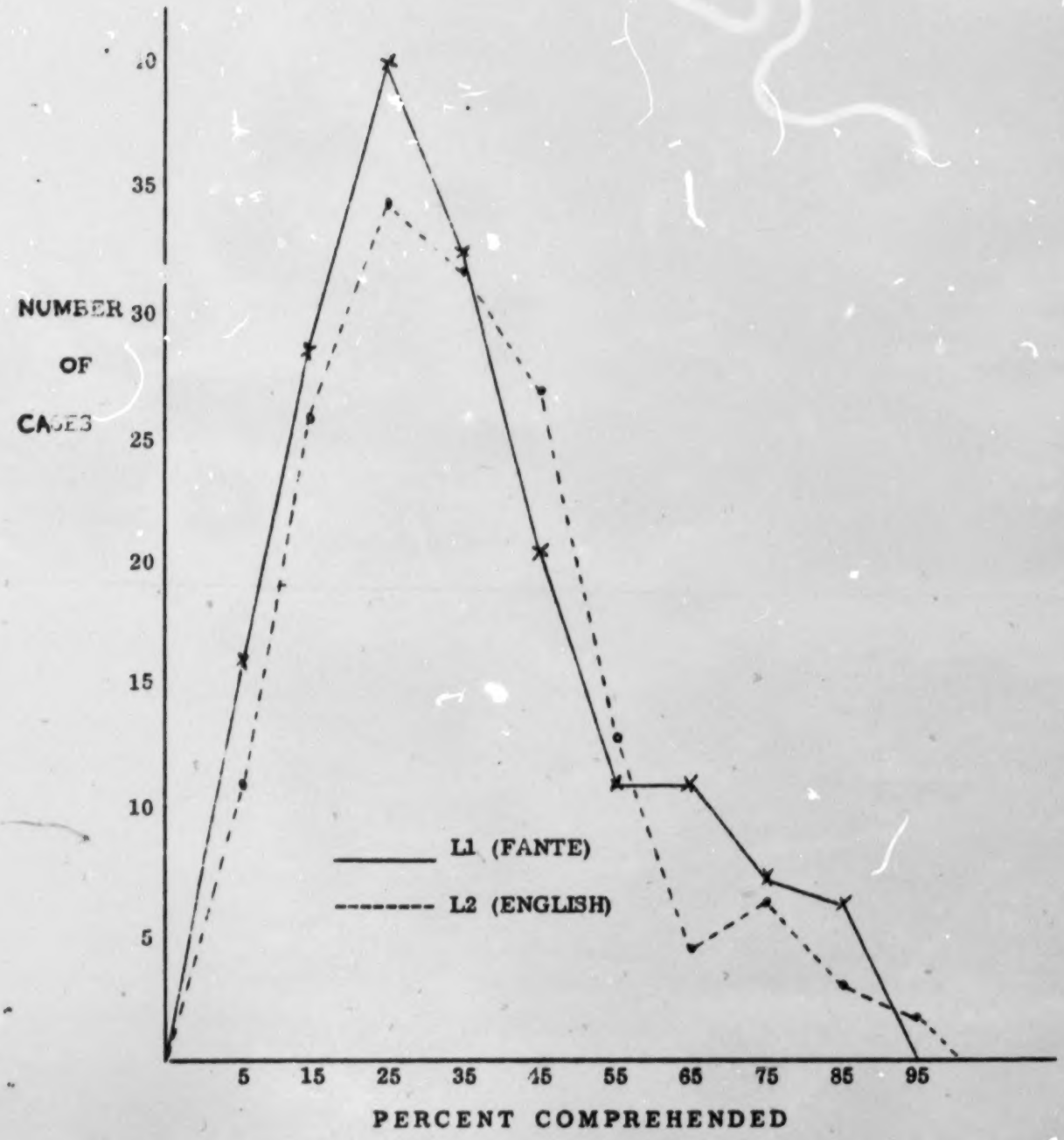
On these data we reject the hypothesis that children would read at a significantly faster rate in the L1, the language of greater oral proficiency. The results showed that these children read at about the same rate in both languages, as the w.p.m. figure for English is not significantly greater than that for Fante ($t = 0.761$; $df = 32$).

ii) Comprehension

Table 1 reveals that mean comprehension scores were 34.8 percent for English and 35.8 percent for Fante. We were surprised by these low figures in view of the simple and straightforward nature of passage and questions, and the success of the trial. In both language sub-groups, even some of the most plainly factual one-word answers were selected correctly by less than half the sample. There were also large variances in both sets of comprehension scores. Figure 1 shows that over 47 percent of children in each language category demonstrated comprehension at or below the level of chance (chance probability of correctness equals .25), and approximately 20 percent of subjects in both the L1 and the L2 had comprehension scores of 55 percent or above. Comprehension scores for both languages have similar and near-normal distributions, with some positive skewness in both cases.

FIGURE 1

DISTRIBUTION OF COMPREHENSION SCORES FOR BOTH LANGUAGES



An analysis of variance was performed to test the hypothesis concerning comprehension differences between L1 and L2. The analysis divides the variance by language and by schools. The results in Table 2 show that the small differences in comprehension cannot be attributed to the language in which the task was performed. That is, the children in our sample did not appear to gain any advantage in comprehension from reading in the mother-tongue, in which they were orally far more fluent, rather than the L2, or vice versa. Indeed, scores were so low as inevitable to reduce the likelihood of a marked difference. The outstanding feature of the data is an apparent all-round weakness in reading.

TABLE 2
SUMMARY OF ANALYSIS OF VARIANCE FOR COMPREHENSION PERFORMANCE IN BOTH LANGUAGES IN ELEVEN SCHOOLS (27)

SOURCE OF VARIATION	SUM OF SQUARES	DEGREES OF FREEDOM	VARIANCE ESTIMATE
ROWS ('SCHOOLS')	21,377.19	10	2,137.72 = Sr^2
Columns (Languages)	6.99	1	6.99 = Sc^2
INTERACTION	4,412.12	10	441.21 = Si^2
WITHIN CELLS	96,649.00	302	320.03 = Sw^2
TOTAL	122,455.30	323	

$$Fi = \frac{Si^2}{Sw^2} = 1.38 \qquad Fr = \frac{Sr^2}{Sw^2} 6.68^{*} \qquad Fc = \frac{Sc^2}{Sw^2} 0.02$$

$^{*}p < .01$

This may be taken as evidence, in the Ghanaian case, against the theoretical expectation that oral mastery of a language yields a direct advantage for reading efficiency. Other factors bearing on reading achievement are to be sought in explanation, with particular reference to the bilingual educational setting of these children.

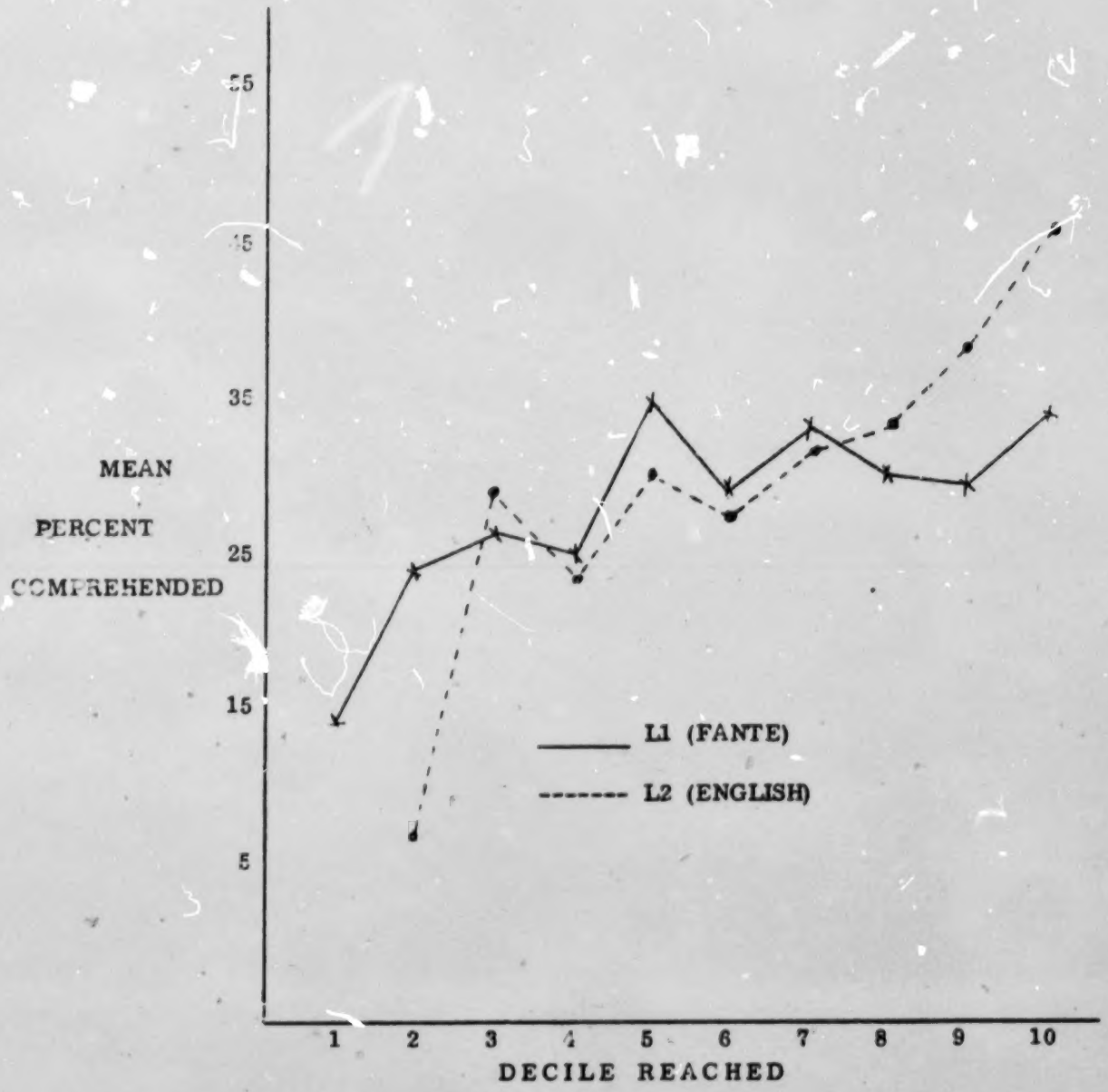
The results also reveal that a significant portion of the variance in comprehension scores is explicable by reference to differences among the schools involved. Hence it is likely that, not surprisingly, general school quality is a highly relevant factor. But no significant interaction was found between "school" and "language".

iii) Rate and Comprehension

We also examined the hypothesis that there would be an inverse relationship between reading rate and comprehension, in view of teachers' common practice of extracting detailed meaning by a slow and systematic treatment in class. But Figure 2 shows no apparent correlation between the two variables for children who read the passage in the L1 ($r = 0.03$), whereas a low positive relationship was observed for the L2 ($r = 0.32$, $N = 155$, $p < .01$). The positive correlation coefficient for the L2 is relatively low, accounting for approximately 10 percent of the variance, but it does indicate that, in English reading, the faster silent readers comprehend slightly more than the slower ones.

FIGURE 2

MEAN COMPREHENSION SCORES PER DECILE REACHED



iv) Antecedent Conditions and Modifying Variables

A subsidiary aim of this study was to gather information on certain background factors, and to explore whether these might be associated with relative bilingual reading development, taking comprehension score as the dependent variable.

a) Sex: Our hypothesis that the boys would obtain higher comprehension scores than the girls is rejected for reading in English. The mean English scores were 41.8 for girls and 33.0 for boys, ($t = 2.77$, $df = 153$, $p < .01$). However, no significant difference in comprehension was found for reading in Fante, where the mean for girls was 36.0 and for boys 34.1 ($t = 0.5$., $df = 167$). These figures are not easy to explain; sex-related research findings in western countries are usually explained in terms of relative maturation, which, if relevant here, should affect both languages equally. More study is required into the influence of bilingual settings on the relationship between sex and reading ability.

b) Father's Education and Nursery Schooling: We examined the hypothesis that pupils' father's education and nursery school attendance would correlate positively with comprehension scores in L1 and L2. Father's education was rated on a 5-point scale according to number of years of formal schooling (no schooling, 1-4 years, 5-10 years, 11-15 years, and more than 15 years). Nursery school attendance was described as a dichotomy. The intercorrelations among these four variables are given in Table 3.

TABLE 3

CORRELATIONS AMONG VARIABLES

	L1 Comprehension	L2 Comprehension	Nursery School Attendance
Father's Education	-0.31 **	+0.23 *	+0.83 ***
Nursery School Attendance	-0.09	+0.16	----

*p < .02 ** p < .01 *** p < .001

Both correlation coefficients relating comprehension in the L1 and the L2 to father's education are small, but statistically significant. It is especially interesting that the two correlations are significant in different directions. Children with more educated fathers appeared to be performing at a higher level in English reading (r = 0.23), while the reverse was found for reading in L1 (r = -0.31). That is, children whose fathers were relatively uneducated tended to read better in L1 than children whose fathers were more educated.

Of the 324 children, 113 had attended nursery school, of whom 58 read the Fante passage and 55 read the English passage. A very high correlation was obtained between father's educational level and nursery school attendance by the children. As the nursery schools charge a small fee, this is not surprising. But nursery school attendance did not in itself demonstrate any significant relationship with comprehension performance in either language. Children who receive this "head start" in schooling do not appear

thus to obtain any independent advantage in bilingual reading attainments, measured 6 years later.

c) School Quality: Table 4 shows the correlational data relevant to the hypothesis that rank orderings of schools by mean comprehension scores in L1 and in L2 would be positively correlated.

TABLE 4

INTERCORRELATION MATRIX BASED ON RANK ORDERING OF SCHOOLS ON ALL VARIABLES

SCHOOLS RANKED ON:	L2 Comprehension	Father's Education	Nursery School Attendance
L1 Comprehension	+0.69 *	+0.01	+0.23
L2 Comprehension	----	+0.11	+0.15
Father's Education	----	----	+0.72 *

*$p < .02$

It reveals the tendency for comprehension scores in the L1 in a given school to correlate highly with comprehension scores in the L2 in the same school (rho = 0.69, $t = 2.84$, $df = 9$, $p < .02$), and confirms that this correlation is largely independent of the other 2 factors, which, however, again correlate positively with each other (28).

DISCUSSION

1. The suitability of the test material

In view of the satisfactory trial, we were disappointed by the low level of comprehension score. There are grounds for caution in considering conclusions from the study, in that almost half the scores fell at or below chance expectation. Three defences can be made against a charge that this invalidates our apparent findings. First, that every precaution had been taken to ensure the suitability of the passage and of the questions; secondly, that, although mean scores were low, the range of scores was well spread out; thirdly, that our principal aim was a comparative one: it is in itself of interest that the lowness of scores was found to apply almost equally to both versions of the passage.

We also remain confident that the linguistic content of the Fante passage was of a sort to be completely familiar to the children in speech, so that we are quite clearly dealing with a phenomenon of reading ability alone.

2. Rate and comprehension

For neither language did we discover evidence that a slower reading rate assists comprehension; for English the reverse was found, to a small extent. This accords with the studies and practice of Fry (29), who has shown that the faster reader perceives larger segments of meaning at each eye fixation and therefore grasps overall meaning more fully. It must be pointed out, however, that all the reading rates in the present study are in a very low range, below that in which a positive correlation between reading speed and

comprehension would be obtained. Vocalising, pointing with the forefinger and other signs of a laboured reading style were common characteristics of the children in our sample. Our correlation figure is therefore likely to have been much affected by virtual non-readers puzzling over basic word and letter-shapes, and constantly going back over the same line. The slight positive correlation for English may be seen as a function of the slightly higher reading rate for that language.

3. Oral ability and reading

In this study the children did not offer a superior reading performance in the language which they spoke more fluently. While the better speakers of English may also have been the better readers of it, this principle cannot, on our evidence, be extended across two languages. This finding should be of interest and concern to teachers and educationists not only in Ghana but wherever Primary schools are in the position of being mainly responsible for establishing some degree of literate bilingualism in a whole population.

To Infant specialists in unilingual schools, it is a commonplace that oral proficiency in the mother-tongue does not guarantee success in learning to read. We suggest that this commonplace has tended to be obscured to teachers and teacher trainers working in a bilingual system. Where the difficulties of adequate teaching and learning of a L2 loom large, it is easy to assume that reading in the mother-tongue can be left to look after itself. Yet in the vogue of the "oral approach" to teaching English as L2 in recent years reading teaching techniques have not been stressed on that front either. In the present case this appears to have

contributed to all-round weakness in reading, with the pupil population manifesting a single overall attainment level in reading in both languages, independent of the differential in their oral command. It does not, of course, follow that each individual child operates at the same level of reading skill in both languages.

In our observation it is the high status of English, and the proportion of professional educational effort devoted to English-teaching in Ghanaian schools and Training Colleges which has had the effect of weakening the expected stronger base in reading in L1. Yet ironically the outcome appears to be harmful to reading standards in English too. The fact that the English comprehension scores were not substantially higher than the Fante ones would refute also the alternative hypothesis considered earlier, that the dominance of English in the "written environment" of the child would cause it to emerge as the predominant reading medium even in the Primary school. As Ferguson points out (3), motivation towards a high-status but non-native reading language may sustain much mechanical effort in the mastering of it, at the expense of what the psychologist and educator would consider the more appropriate medium. In the Ghanaian case, however, local languages have not been entirely neglected for reading purposes, as they have in many parts of Francophone West Africa and Ethiopia. Each Ghanaian child is in effect offered two simultaneous ways forward in reading, the L1 and the L2, in uncertain relation to each other, and proceeds uncertainly along both. But experience elsewhere has shown the importance of numerous organisational requirements for making L2-medium education effective (30).

Three other factors, in our observation, affect overall reading

attainments: the limited supply of reading material in either language; mechanical or authoritarian methods of reading instruction (in both these respects the Ministry of Education is now working hard on improvements); and lastly, the general quality of the school environment, physical and social, which our data have indicated to be associated with reading standards.

We therefore feel some confidence in predicting that L1 reading skills would be well ahead of those in English (and provide a better base on which English reading might be built) if more reading material were available, and if schools provided a more relaxed atmosphere in which the individual child could feel free to pursue his reading interests. As it is, much reading instruction in the L1 is not essentially more mother-tongue-like than that in English, for it tends to derive from the text of the reading primer, rather than from the everyday speech and experience of the children. To call for a clearer relationship between the two languages as reading media in school is in effect to ask for initial reading skills to be firmly established in L1 before English reading is added to the bilingual mixture of skills.

This might look like a return to the priorities observed in colonial times. But the critical difference is that in colonial times English naturally exerted its dominance over the early years of education, regardless of what educational language policy actually was. The newly-independent government of Ghana in 1959 was fully in tune with popular sentiment of the time in giving English over-riding importance as the medium of instruction, and, by implication, of reading too. Yet while

teachers and pupils now still strive zealously to teach and learn English, the feeling for the indigenous languages is strong and growing, and will, in our view, provide a basis in the coming years for the reassertion of the natural but not irrepressible principle that a child most efficiently learns to read through the medium of his mother-tongue.

4. Home background

There remains the question of the balance in bilingual reading ability in individual children. Do they tend to exhibit a preference for one or the other language, or do those who read well in one language read well in the other, reflecting the overall picture in each individual? As we did not administer both our tests to the whole sample, we could not directly investigate the nature of the correlation. But we did correlate all scores with a third variable, father's education, with results (Table 3) that incline us towards the first of the above possibilities. They suggest that individuals tend to exhibit a preference for one or the other reading language, and that this preference may be a function of the cultural identity of the home. If this is correct, it would join a wealth of evidence from other countries associating the socio-economic level of the home with school attainments, especially language attainments (31).

As the children from poorer homes do not have any more opportunity to read books or other reading matter in GL than do their more privileged counterparts, their superior reading performance in that language must surely be described in terms of motivation and sense of integration with the social group. For all pupils English has instrumental value, as the key to further education and employment. But its integrative function is

naturally stronger for children from homes in which one or both parents have themselves been to school. The GL, conversely, more completely identifies the home in which English is never heard.

Cape Coast has had some 200 years of contact with English-speaking foreigners, and is now a regional administrative capital, and University and secondary school centre, with big shops, libraries and offices. Yet it is the major traditional Fante town as well, with a large population of fishermen and their families; two poles in way of life and values may be felt by all children growing up there. We outlined earlier some factors influencing overall attainment levels in reading, and we would now indicate this bi-cultural element in the children's social environment as explaining, in part at least, their apparent individual leanings towards one or the other of the languages used for teaching reading in school.

The dilemma for educationists is that children from the poorer, GL-oriented home background must still be able to compete on equal terms for entry to the inevitably English-dominated secondary school. A GL-dominated Primary education, tuned to the language and cultural values of the home, would thus weaken them in their start in a highly competitive school-and-job career. The ideal is a balanced bilingual approach at the Primary level, including regular and standardised checks on reading progress in both languages.

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20. The 1960 Population Census recorded 757,550 Fante, being 28.2 percent of the Twi-Fante (now more usually called Akan), and 11.3 percent of the total population of Ghana. The Fante people are mainly concentrated in the Central Region of Ghana.

21. The schools within the Cape Coast Municipal Council area, include coeducational and single sex schools, Local Council schools, and schools sponsored by the Christian Churches.

22. We are grateful to Miss J. Wiredu of the Curriculum Research and Development Unit, Ministry of Education, Accra, for her assistance in supplying the passage. We also wish to express our gratitude to Messrs. S.S.M. Nyarku and A.A. Abanyie for their assistance as translators.

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